AMENDMENT TO THE CLAIMS

The listing of claims below will replace all prior versions, and listings, of the claims in the application.

Claims 1 – 74 (cancelled).

Claim 1 (previously presented): An isolated polynucleic acid molecule encoding a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 38 and SEQ ID NO:42.

Claim 2 (previously presented): An isolated polynucleic acid molecule encoding a protein comprising an amino acid sequence selected from the group consisting of Cys^{44} through Cys^{389} of SEQ ID NO:38 and Cys^{41} through Cys^{337} of SEQ ID NO:42, wherein said protein is capable of binding to a glial cell line-derived neurotrophic factor or a neurturin neurotrophic factor such that the resulting protein/neurotrophic factor complex can bind to and induce phosphorylation of ret receptor protein tyrosine kinase.

Claim 3 (previously presented): An isolated polynucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of:

a) nucleotides of SEQ ID NO:37 encoding SEQ ID NO:38, and

b) nucleotides of SEQ ID NO:41 encoding SEQ ID NO:42.

Claim 4 (previously presented): A vector comprising a polynucleic acid molecule of claim 1, 2, or 3 operatively linked to one or more operational elements effecting the amplification or expression of said polynucleic acid molecule.

Claim 5 (previously presented): A vector comprising a polynucleic acid molecule encoding a protein comprising the amino acid sequence of SEQ ID NOs: 38 or 42 operatively linked to one or more operational elements effecting the amplification or expression of said polynucleic acid

molecule, wherein said protein is capable of binding to a neurotrophic factor such that the resulting protein/neurotrophic factor complex can bind to and induce phosphorylation of ret receptor protein tyrosine kinase.

Claim 6 (previously presented): An isolated host cell comprising a vector of claim 4.

Claim 9 (previously presented): An isolated host cell comprising a vector of claim 5.

Claim 7 (previously presented): An isolated host cell comprising a vector of claim 4 wherein said host cell is selected from the group consisting of a mammalian cell and a bacterial cell.

Claim 8 (previously presented): A host cell of claim 7 which is a COS-7 cell or E. coli.

Claim 11 (previously presented): A method for the production of a neurotrophic factor receptor protein, said method comprising the steps of:

(a) culturing an isolated host cell, containing a polynucleic acid molecule encoding a protein comprising an amino acid sequence selected from the group consisting of

(i) SEQ ID NO:38, and

(ii) SEQ ID NO:42,

under conditions suitable for the expression of said neurotrophic factor receptor protein by said host cell; and

(b) optionally, isolating said neurotrophic factor receptor protein expressed by said host cell.

Claim 85 - 86 (cancelled).

Claim 10 (previously presented): A method for the production of a neurotrophic factor receptor protein comprising the steps of:

(a) culturing an isolated host cell containing a polynucleic acid molecule of claim 1, 2 or 3 under conditions suitable for the expression of said neurotrophic factor receptor protein by said host cell; and

(b) optionally, isolating said neurotrophic factor receptor protein expressed by said host cell.